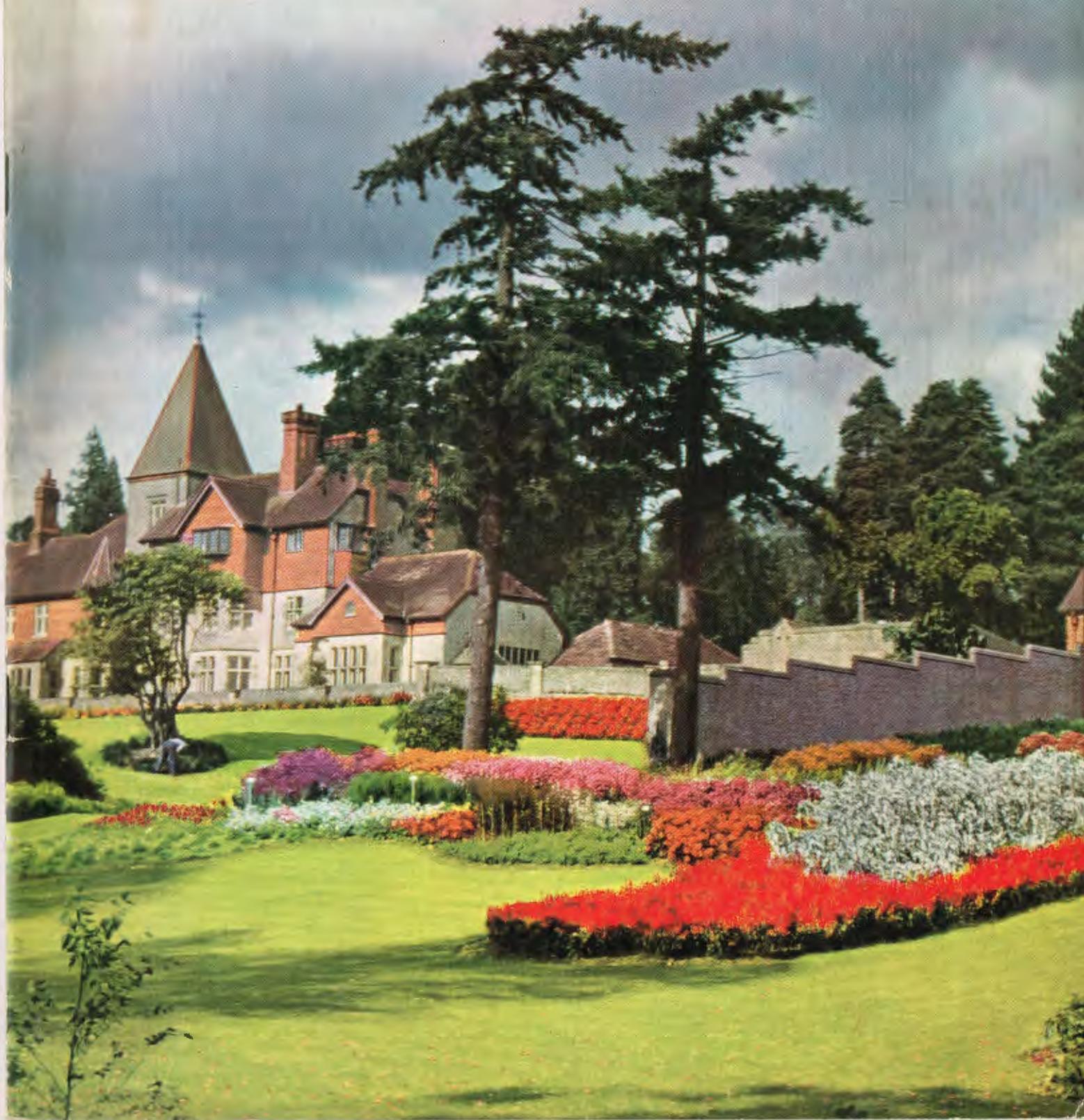




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FRONT COVER. Fernhurst, Plant Protection's Research Station, where the second International Conference on Crop Protection took place last month. Photograph by Miss P. M. Smith.

OUR CONTRIBUTORS

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An Evolving Britain

By Sir Alexander Fleck

Britain is facing economic difficulty today. Standard of living is substantial. Here is a thesis, surveying where we have gone forward

This article is based on an address delivered recently by Sir Alexander Fleck to the Canadian Club in Montreal

Nevertheless our progress towards a higher oughtful summing up of our industrial position, and where back, by the Chairman of I.C.I.

My Company has endeavoured to play an active part in the industrial development throughout the Commonwealth. We have endeavoured to make our contribution through the establishment of manufacturing roots in countries whose economies were previously dependent on primary production. These countries have striven to broaden the base of their economy, and we have tried within our own field of chemistry to assist them.

To give you a specific example, before the war 60% by value of the products which we sold in Australia were British made and only 40% were Australian made. Today the reverse is the case: 75% are Australian made and 25% are British made. The interesting point is that 25% today is a larger volume of goods than the 60% before the war. So you see that the industrialisation of such countries as Australia is not only good for the Commonwealth but is also good for Britain, in spite of superficial appearances to the contrary. It is also an example of how Britain must respond to the challenge of a changing world.

It is, however, of recent changes in the social and industrial structure in Great Britain about which I wish to speak.

First let us consider the economic base on which the physical power of Great Britain depends, including her ability to play her part in Western defence. The stern facts of the situation are incontrovertible and inescapable. We have 51 million people living in the crowded British Isles, in which we grow little more than 40% of the food which we need, in which we have few of the raw materials with which to feed our factories, and with an ever-growing shortage of

indigenous fuels relative to our increasing need for energy. Yet up to date we have managed to enjoy one of the highest standards of living in the world.

In the past we have managed to prosper, in spite of these apparently disadvantageous conditions, by virtue of our stake in world trade. We have imported the food and raw materials which we lacked, and in return we have exported manufactured goods, services and capital. In fact, since the nineteenth century we have not been a nation so much of producers as of manufacturers and merchants. We in Britain live on the conversion of imported raw materials into manufactured goods saleable on the world market at a reasonable margin of profit over raw materials and conversion costs. It is on that margin of profit that we exist.

In addition we have the income from our overseas investments and such earnings as we can glean from shipping, insurance, banking and similar services. It follows therefore that over the years our income from exports—both visible and invisible—must be equal to the payments which we make abroad for our imports, because we cannot sustain an overseas deficit for long. That, then, is the challenge.

Our ability to meet this challenge has not been improved by having had to undergo two world wars within a generation. I do not think that the general public on either side of the Atlantic appreciate how great a strain the second world war put on the British economy.

On the figures available to me, the second world war is estimated to have cost Great Britain £42 billion, which is eleven times the estimated cost of the first

world war. This figure of £42 billion amounted to eight times our 1938 gross national product—in other words we devoted to fighting the war the equivalent of the total wealth produced in the country over eight peacetime years. Under these circumstances it is hardly surprising that things have not been easy for Britain since the end of the war.

On the whole, I can report much good progress from the home front, where we have managed to restore, and subsequently to expand, the economy to such a level of activity that our over-riding problem has become the inflation inherent in an overstrained economy rather than the under-employed economy which we knew in the inter-war years. Since the war we have expanded our production, so that today the volume of our overall industrial production is 53% over pre-war.

Increased Output

The output of steel has doubled. The amount of electricity generated has trebled, so has the output of trucks and automobiles. In the chemical industry, in which I have had greatest experience, production has similarly expanded about three times above pre-war.

On the employment side there has been a complete reversal of the unhappy state of affairs which we knew before the war, when between one and two million of our people were permanently unemployed. Since the war we have enjoyed a state of full employment. Indeed, in recent years we have reached a position where the number of unfilled vacancies has exceeded the number of unemployed—a state which is frequently bemoaned as "over-full" employment. To those of us who remember the depression, this is an infinitely preferable state of affairs—*inflationary* though it be—to the pre-war state of under-employment with its train of human misery.

Making Ends Meet

As you know, it has been on our foreign account that we have experienced the greatest difficulty in making ends meet. While we have been engaged on restoring the home economy, we have had to meet the challenge of strong foreign competition in world markets. If we had directed all our increased production to improving our external position, the British economy would no doubt be in a healthier position than it is today. But human nature being what it is, our people, like you here in Canada, were bitten with the idea of a higher standard of living.

On the whole, the people have enjoyed a considerable improvement in their standard of living, but it has been at the expense of our external position. It is easy to criticise this state of affairs, and under a democratic system there are certain inherent difficulties in establishing the correct balance between external and internal economic effort.

In the long run the ballot box is no guarantee that we shall be able to maintain our standard of living. It all depends on how we measure up to the challenge of world competition. This challenge cannot be avoided, because we are so dependent on world trade. It is no exaggeration to say that Britain has the most exposed economy in the world. This means that the pace of development and the standard of efficiency in our economy are set, not by ourselves in Britain alone, but by the world. If we do not keep to the fore in such developments we shall not be able to maintain our standard of living—let alone improve it.

Our Daily Bread

A self-supporting country such as France can afford to jog along at her own pace, because she is not dependent on exporting up-to-date products in order to eat. In Britain we are. Our daily bread depends on efficient manufacture.

Parallel with the change in Britain's economic position there has been a major social evolution. This social evolution is normally associated with the emergence of the Welfare State, but I think that it goes a good deal deeper than the mere mechanics of state welfare. It can be best illustrated by the change in the distribution of spendable incomes. Whereas the average wage-earner has received increases in his earnings which have not only taken care of inflation but have also left him with a real increase in his earnings, the middle classes, especially the professional people, have not only received no real increase in their incomes but have sustained an actual loss due to the effect of inflation.

Going too Far

To give a case in point, the average wage rates of the industrial worker have increased by 150% since pre-war, while those of a middle-level civil servant have increased by less than 50%. In terms of spendable income, Britain today is the most egalitarian country in the world. This process has assuredly gone too far if either justice or incentive is to be given to

the individual. It must be reversed to some extent if we are to encourage the enterprise, initiative and risk-taking which are essential to progress.

The Welfare State has certainly been a party to this process in so far as it demands a high level of government spending, which in its turn requires a high level of personal taxation, thereby encouraging the egalitarian process. But with an imaginative re-vamping of our fiscal system it should be possible to restore reasonable differentials in spendable incomes without destroying the fabric of the Welfare State.

The Uncommon Man

I am not unduly alarmed about the Welfare State, but I am apprehensive at our reluctance to recognise that even in "the age of the common man" it is to the uncommon man that we must look for leadership and for discovery. Unless we restore to the exceptional man some of the glory and the reward which were formerly his, the Welfare State will find itself leaderless, and the high principles which it endeavours to secure will prove an empty mockery.

On the industrial side I would like to direct my remarks briefly to three significant changes. First the changing index of national production; secondly our energy situation; and finally agriculture.

A Quicker Tempo

For many years in the latter part of the nineteenth century the annual compound increase in British national production was about 1½%. At this figure the country jogged along in unhurried Victorian style, peaceful and leisurely. At the same time on this side of the Atlantic the figure was 3%; the doubling of a small figure meant a very different tempo in industrial life. With two world wars and a greater realisation that every workman wanted, or should want, power behind his arm, the annual rate went up in Britain to 2½%. Since 1948 that has again materially increased and been maintained, and we now consider the figure to be just below 5%. This is a very significant and heartening increase, and while it is not in itself a solution to fundamental problems, it does show that the British people are attuned to significant changes in their rate of production and, given proper guidance, can be led into rates of production that are to a large degree satisfactory.

In my own business the figures are also of significance. For the past seven years the annual increase

in production in the chemical industry has been of the order of 8·8% compared with the country's figure of 5%. I think you will see in this an increasing realisation in our industrial structure of the need for chemical products. Here again Britain is changing in line with the developing technologies on this side of the Atlantic.

One of the subjects which is going through much change of outlook is our approach to our energy situation. Some months ago the Chief Statistician of the Ministry of Fuel and Power, Dr. G. H. Daniel, gave a paper which to my mind is of great significance. All his figures are in equivalent million tons of coal. Consistent with the outlook I have expressed in the preceding paragraphs, it is anticipated that the need for energy will steadily rise from the 245 figure for 1954 to no less than 450 in 1985, although reasons are given that this might be somewhat on the high side.

Filling the Gap

As you no doubt know, the production of coal from British mines is one of our most difficult and serious problems. It is unlikely that British coal will contribute more than 240, leaving a balance of over 200 to be found by other means. Dr. Daniel looks forward to that vast amount, equal as it is to almost the whole of the energy from the coal raised in Britain at this moment, to come from oil and nuclear energy. The target for both involves an immense work for Britain and the world at large.

In place of the equivalent of 38 million tons from oil products we will want 155 million tons, and of course all the ships to carry that quantity. In thirty years' time we shall want the equivalent of 94 million tons from nuclear energy.

Keeping Imports Down

I have already reminded you that to live Britain must on one hand import and on the other must be an exporting nation. The amount we can export is not unrestrictedly high, so we must keep our imports as low as possible. It is from possible increased contributions from the agricultural side that we can see alleviation in the situation that faces us.

If we are to pay for those large quantities of oil products which I indicated may be of the order of 155 million tons per year, or at a rate of about four times as much as at present, it is clear that a possible increase in our agricultural output to relieve the already

great pressure on our imports is of the utmost value.

Our assets must be used to the full, and in the connection in which I speak we have two of importance. First of all I would remind you that although we suffer frequently from abominable weather we have a beneficial climate, and secondly we have a lot of excellent soil. These two things we must exploit, and their exploitation means good farming, and that in turn means good fertilization. To make my point I am going to give you some figures for fixed nitrogen applied by the farming community to the land of Britain—England, Wales, Scotland and Northern Ireland have all made their contribution.

More Nitrogen Used

In 1938, the year prior to the war, the figure was 60,400 tons of nitrogen. During the war it went up to 181,000 tons—from 60 to 181, slightly more than three times. After the war there was a slight recession back to 163,000 tons, but from 1948 there has been a steady increase. In the last completed year the figure was 248,000 tons for 1954, and for the current year the figure is 270,000 tons.

We are putting on to our land 4½ times the amount of nitrogen that was used pre-war. So there is evolution going on in agricultural practice. The fundamental change is connected with the practice of grassland management, and that means a basic change in our handling of livestock. But the changes go much further than that. For instance, the wheat situation may be of special interest to a Canadian audience. Due to improved varieties and increased nitrogen, the yield in 1955 (admittedly an exceptionally good year) from acreage only 10% greater than that employed in 1939 was 2·6 million tons in place of a pre-war yield of 1·64 million tons, the per acre yield rising from 33·6 bushels to 48·2. I am sure in due time our agricultural methods will evolve to a greater degree of food independence.

Though much is Taken

I should like to end by quoting you a few lines of Tennyson:

*Though much is taken, much abides: and tho
We are not now that strength which in old days
Moved earth and heaven: that which we are, we are;
One equal temper of heroic hearts
Made weak by time and fate, but strong in will
To strive, to seek, to find and not to yield.*

THE WELL DRILLER

WE stood looking down into Tunstead Quarry, one of the largest limestone quarries in the world. A yard in front of us, the quarry face fell away sheer to the "floor," 150 feet below. About half a mile away we could see the group of buildings housing the crushing plant; and nose to tail, like marching ants, an endless stream of limestone-laden trucks entered it to deposit their burdens before returning to the face for more.

In preparation for the big blast which would each week bring down 50,000 tons of limestone from the quarry face, some half-dozen well drills were dispersed along the top of the quarry. They looked, with their long masts, for all the world like cranes engaged on some big construction project. Their heavy tractor-style chassis made it easy for them to move about on the rough surface. As we approached the nearest, a man climbed down from the cab and came to meet us.

"This," said the foreman, "is Harold Marchington. He was trained on the first well drill to be installed here, and the drill he's using is a nine-inch one—the largest size we've got. He can tell you all you want to know about it."

Mr. Marchington—Marco to his friends—is a powerfully built man in his mid-fifties. We spent a few moments talking about his earlier life. Originally a railwayman, he started at Tunstead seventeen years ago as a "barer," removing the soil from the quarry top to reveal the stone.

"I've got to move the drill to another site in a minute or two," he said, "but at the moment it's still over a hole, if you want to see it working. Climb up on to the platform with me."

Safely installed in a corner of the cab, I could see everything without getting in the way. The drill—a 9 in. diameter steel rod weighing two tons, with a "cross-bite" cutting face on the lower end—hung perpendicularly from the jib, poised over an opening in the platform on which we were standing.

"This drill," Mr. Marchington explained, "isn't a radial drill, like you'd use for drilling a piece of wood at

home. It's more like a cold chisel, cutting and crushing at the same time. We normally drill down the whole depth of the face—say 150 ft.—and then the hole is charged with explosive. We usually fire a series of holes at the same time—and it certainly brings down a lot of stone, most of it nicely broken up. I'm going to lower the drill into the hole until it hits bottom. Listen, you'll hear it bump."

He reached out to a lever. At first quickly, then more cautiously, the long drill descended on its steel hawser into the hole at our feet and out of sight. Eventually a tell-tale thud showed that the bottom had been reached.

"Now I'll start drilling"—and he reached out again to the controls. The hawser jerked and the whole machine started to rock gently, as way below us the drill was lifted off the bottom and, like a pile-driver, dropped back on to it again in a series of rhythmic hammer blows. With each blow the hawser imparted a slightly twisting motion to the drill.

The demonstration over, I asked Mr. Marchington what snags he encountered on the job.

"Well," he told me, "we've got to use water, both to keep the drill clean so that it works properly, and to bale out the chippings and dust that accumulate at the bottom—in just the same way as you'd need to blow out the dust from a hole you were cutting with a chisel. This, by the way is the baler"—and he showed me a long steel cylinder, with a self-operating valve at the lower end, which can be let down into the drill hole in the same manner as the drill itself.

"Then again," he went on, "it's not unknown for a drill to get stuck. We've got tools for dislodging it, but it's still a bit tricky."

I climbed down from the platform, and watched as Marco skilfully guided the well drill away towards its next job. Below, on the floor, the "ants" still marched; and, as I started away myself, I suddenly thought of the top of Tunstead in mid-winter, 1100 ft. up in the Derbyshire Peak. I felt very glad I had visited it in May. C.S.J



Harold Marchington

CENTRAL COUNCIL

Pension Fund matters occupied pride of place at Margate Central Council, and a motion asking that the trustees should consider improving the benefit rate was passed with only two dissentient votes. Other matters discussed included canteen prices, long service awards and safety footwear.

With sketches by Ralph Sallon

FOR the first time since the war, Central Council deserted the north and held a meeting in the south of England—at Margate. It was glorious sunny weather and the delegates assembled in the best of spirits, many of them still talking of the first-class entertainment provided by the Metals Division concert party the night before, of which the highlight was the singing of Mrs. Merlys Evans.

The Chairman, Sir Alexander Fleck, opened the meeting by referring to the innovation of inviting a number of observers from the Divisions to listen to the proceedings and thereby help to inform the rest of the Company as to what was going on by reporting back to their fellows. This, he said, was one of the reasons for coming to Margate, where the hall could accommodate more people.

Sir Alexander then went on to comment on the Company's past year's trading and its prospects for the future. Particularly satisfactory, he said, had been our exports, which over the past five years had increased by 23% in value at a time when the value of British exports in general had hardly increased at all. The dominant factor in general, however, was the rise in costs, many of which had been absorbed by the Company in the effort to keep prices down. This was clearly evidenced by the fact that whereas turnover had increased by 17%, our income had increased by only 12%. We had to face growing competition from abroad and, in particular, competition from behind the iron curtain. Even China was exporting caustic soda. If we were to continue to sell abroad to the same degree there would inevitably be a drop in the profitability of our export business. It was a challenge we had to meet; and it was up to us to see that our pro-

ducts were available at prices more attractive than those of our competitors.

The Chairman then went on to speak on the vital subject of automation. "If," he said, "automation is taken to mean automatic control, then we have had automation to some degree ever since the Company was formed. As our processes and technical skills have developed, the degree of automation has increased. It has been a continuous development, still going on and increasing in pace, and a necessary one, which has enabled us to maintain and improve our position in the world's chemical industry. It has contributed to the reduction in hard physical work, the removal of monotony, and the safer working of our plants.

"That mechanisation of our handling and automatic control of our processes, when properly applied, increase our productive efficiency is, I think, agreed by all of us. The same statements applied to the country as a whole are also true. The arguments which have figured in the press recently have not been on the advantages of these developments, but largely on the problem of redundancy. I have already told you the Company's views on this most important human problem, but at this juncture it seems worth while to repeat what I said last November. The words I used then still describe the situation:

"When a specific job becomes mechanised and more automatically controlled, it must lead to redundancy in the narrow sense that the same number of people are no longer required to perform the same task. But that does not necessarily mean redundancy in the sense that the people concerned will no longer be required by the Company. On the contrary, this type of displacement will

help us to offset the general effect of the nation-wide shortage of industrial labour and enable us to deploy our work force to better advantage. Always given good management and good research work, this trend is one of the basic methods which will enable our company with the limited resources of manpower available to us to continue to carry out that expansion programme which has characterised us over the period of the Company's existence. If such redeployment is to take place smoothly and without any personal hardship, management must combine imagination and foresight with good planning, while those on the factory payroll must show themselves flexible and willing to learn new techniques. I believe from past experience that as far as our own company is concerned these qualities will be shown, so that the problem of technological redundancy will not be a serious problem.

More Careful Planning

"While all this may lead to a reduction in the number of certain types of jobs, such as machine-minding, it will almost certainly lead to an increase in other types of jobs. For instance, the amount of maintenance work will certainly increase. Automation relies principally on instrumentation, and is likely to place an emphasis on skill and training as essential requirements. It requires more careful planning and more detailed progressing, both of which suggest an increase in technical staff and in the numbers employed in the drawing and planning offices. Since the trend is gradual, I do not envisage that the shift in the balance of jobs should prove to be too difficult a problem with which to deal, especially when it is taken in conjunction with the prospects of continued expansion by the Company."



Mr. R. Schumacher

Before closing his address the Chairman outlined plans which the Company has in hand to meet the growing shortage of scientists. "Even allowing for the difference in size of population," he said, "it seems clear that the United States and Russia are ahead of us in the numbers of young people who are now receiving a scientific and technical training." By means of various schemes, such as vacation courses, transfer scholarships whereby students who specialised in classics can take up science instead at a university, more technical colleges—such as the one recently opened at Redcar—and student apprenticeships, it was hoped to accelerate scientific and technical training.

The meeting then settled down to business. Mr. R. A. Banks, the Personnel Director, set the ball rolling with a statement that the Board did not intend to consider any

changes in the Share Investment Scheme for the present and in particular until further experience had been gained of the Profit Sharing Scheme.

Mr. W. H. Close (Birmingham Division) then resuscitated an old friend. He put to Council the motion that "further consideration be given to the means whereby employees may be allowed to buy I.C.I. paints at discount

prices, no matter in what Division they work." It was not long before this thorny subject brought Mr. L. H. Williams, the chairman of Paints Division, to his feet. Paints Division employees, he explained, had had the privilege of buying paints for the past thirty years. It was quite another matter to impose this obligation on stockists in other parts of the country. Moreover, was the stake at issue really worth all the bother? Last year the paint bought in Britain outside the building profession amounted to £25,000,000, i.e. £2 per household. It was not unreasonable to suppose that £2 per household also represented the paint consumption of I.C.I. employees. A 10% discount off this would amount to 6s. a year, or 1½d. a week.

The Long And Short Of It

Other speakers who supported the motion seemed to sense the force of this, and more than one touched on the possibility of voluntary associations, organised on the



Dr. A. C. Richardson



Mr. W. Cousins

lines perhaps of ratepayers' associations, which would seek a discount from stockists on a voluntary basis.

After Mr. E. M. Fraser, the Sales Controller, had reinforced the arguments of Mr. Williams, Mr. W. J. Worboys, the Commercial Director, rose to his feet to reply on behalf of the Board. Wholesalers' and retailers' margins, he emphasised, were not casually arrived at, but had been worked out carefully in the light of experience to give these merchants a profit which was by no means unreasonable. The long and short of it was, the Company could not go to these people and ask them to cut their margins.

On being put to the vote the resolution was defeated by 31 votes.

Next came the question of canteen prices. The motion on the agenda was "that the Company be asked to consider making a substantial reduction in the price of the main meal without altering the present quantity or quality of the food." When it came to the point, this motion was withdrawn, doubtless because delegates felt they could hardly press it in view of rising food costs. Nevertheless, Mr. E. T. Grint, the Chief Labour Officer, took the opportunity to make a most informative statement on canteen costs.

Canteen Losses

I.C.I.'s canteens, he divulged, were now running at a loss of roughly £750,000 a year. About £400,000 of this was a direct trading loss attributable to wages and purchase of food. Approximately 80% of the cost of a canteen meal today was, roughly speaking, attributable directly to food costs. If food prices went up further, this must inevitably be reflected in higher canteen prices, and it was intended to use the Ministry of Labour's index of food prices as a basis for a revision of prices if revision became necessary; but in any event, said Mr. Grint, there would be no change before June 1957.

Long service awards next occupied Council's attention. First Council received the Company's reply to the request that the existing restrictions placed on the alternative choice of a lady's gold wristlet watch by male employees qualifying for a thirty-year award should be removed. Mr. E. T. Grint announced that in future any man or

woman qualifying for a thirty-year award could choose a man's or woman's watch as he or she wished.

A casual observer might have thought that the same principle would apply to an employee qualifying for a twenty-year award, but the resolution asking that this should be so in the twenty-year award group met with considerable opposition. It even drew Mr. P. C. Allen, the Fibres Division Group Director, to the microphone in opposition. A twenty-year award, he maintained, was a personal link between the Company and the recipient or, as another speaker put it, between management and the working man. It should not be translated into a gift for his wife. Put to the vote, the motion was rejected by a substantial majority.

A New Proposal

Delegates, however, were in the mood to obtain further concessions from the Company if possible. The next resolution, proposed by Mr. E. Hutton (Billingham Division) and seconded by Mr. A. R. Allardyce (also of Billingham Division), was that "in view of the prosperity of the Company during recent years the Main Board be

asked to make a token payment to those employees who had retired from active employment and had had 10 years' service with the Company prior to 31st December 1954." It was argued without any very great show of conviction, and there must have been some in the room who felt rather shamefaced at such a request for more money.

Mr. F. Hill, Head of the Pensions Dept., who spoke from the platform, held out little hope of this proposal meeting with approval by the Main Board. He stressed the difference between what was now asked for and, for example, the Profit Sharing Scheme. One was a sharing in the results of current production, the other an award for past services, which was a very different matter.

Council then had the satisfaction of listening to an announcement of concessions granted as a result of suggestions put forward previously at Central Council. The I.C.I. Sickness Benefit had been increased from £1 to £1 10s. per week as from 1st April last, and the Pension Fund had been reopened to non-members during February and March this year. The results of the reopening

of the Pension Fund, said Mr. R. A. Banks, the Personnel Director, had been extremely satisfactory and far exceeded expectations. Immediately before the reopening there were 4971 eligible employees in the Company who were not members of the fund, and of these 3242, or over 65%, had joined.

Central Council's request, at the meeting in Blackpool last autumn, for an increase in the present subsidy on safety footwear did not, however, have a similar success. In 1955, Mr. E. T. Grint explained, 38,000 safety boots had been bought by employees under subsidy and 37,000 had been issued free under conditions where the risk was appreciable. It was true that the subsidy was only 10%, but Council must remember that these boots, sold at 39s., were in fact obtained at contract price. The retail price was about 59s., and the subsidy of 10% therefore in fact represented a saving of 20s. a pair.

Sickness Benefit Debate

It was on this note that Council broke up for lunch and reassembled in the heat of a lovely spring afternoon to hear Mr. P. T. Menzies, the Finance Director, give an extremely lucid exposition of the Company's balance sheet.

After the presentation of the safety trophy (reported elsewhere in the *Magazine*) Council turned to the General Chemicals Division resolution asking that the I.C.I. Sickness Benefit should include the days before a medical certificate is obtained. This was carried nem. con., as was a similar motion asking that the Imperial Chemicals Workers' Friendly Society rules be amended on the same lines. Mr. E. R. Lightfoot, the secretary of the society, explained, however, that there could be no question of altering the rules for another two years.

Alkali Division Proposal

Council now turned to what was perhaps the most important subject of the day. Alkali Division (Mr. D. Fogg) moved a resolution that it should be made possible for members of the Pension Fund, if they chose, to increase their contribution from 2½% to 5% of wages and that a corresponding increase in the Company's contribution be made.

Mr. Allardyce (Billingham Division) opposed the resolution on the grounds that a man on the minimum wage could scarcely afford it; but it was left to Mr. J. A. L. Young (Billingham Division Personnel Director,

and formerly head of the Pensions and Assistance Funds Department) to deliver the most telling blow of all against the motion. He objected to the words "that a corresponding increase in the Company's contribution be made."

"Why," he said, "should the Company be asked to give increased help to those who are in a more fortunate position than some of their colleagues?"—fortunate

in the sense that they were in a position to be able to afford themselves a higher rate of contribution to the Pension Fund.

Pension Fund Revision Asked For

The motion was defeated by a substantial majority, and Council passed on to consider a more straightforward motion from Dyestuffs Division, moved by Mr. T. Harley, and asking that after the next actuarial valuation two things should be considered by the Pension Fund trustees: (1) improving the benefit rate as far as possible, and (2) instituting an additional benefit which would provide a lump sum on retirement on the basis of £5 for each year's membership of the fund. This motion was on far firmer ground and obviously from the start demanded very general sympathy. "I know of one case," said Mr. R. Barratt (Metals Division), "of a man with 45 years' service who has retired with a pension of only 31s." Other speakers drew attention to the large capital now in the Pension Fund, standing at £19,000,000. "We feel that the Pension Fund is merely an accumulation of capital," said Mr. J. Auld (Nobel Division). Put to the vote, the motion was carried with only two voices against and will therefore be forwarded to the trustees for consideration.

After some further debate on the vexed question of whether a man's family should be entitled to his retirement gift if he should die before being able to receive it, the meeting drew to a close, and so ended what was for this observer at any rate a somewhat disappointing session whose very agenda wore a rather battered look. R.M.K.



Mr. C. L. Moore



Mr. R. E. Tugman, M.B.E.



Mr. W. G. Tucker



Mr. A. W. Weir



Garden Notes

By Philip Harvey

DURING recent years thrips or thunderflies have caused widespread damage to rose trees, and in some gardens they are more serious pests than aphids. Thrips are more abundant in hot, dry weather, especially during July.

Every gardener can recognise aphids on roses and other plants, but thrip damage is probably less well known. Mottled and marbled foliage, also deformed flower buds which often fail to open properly, are typical symptoms. The edges of the petals turn brown, and even when the flower opens out fully the general appearance is spoiled.

Some varieties are more susceptible than others, and generally speaking whites and pinks suffer most (red roses usually escape). If you have any bushes of Mme. Butterfly, Lady Sylvia or Ophelia, thrips are almost certain to cause some damage during a hot spell.

A gamma-BHC spray such as 'Sybol' tackles thrips and, of course, other rose pests like aphids, leaf hoppers and sawfly caterpillars. All are more troublesome during dry summers. Aphids are often said to favour rose trees with soft, sappy shoots, but in my experience they will usually attack indiscriminately, especially during spring and early summer. Overcrowded rose trees are, however, often badly infested, and attacks are probably less serious where roses are growing in exposed positions with little or no shelter.

July is an ideal month for propagating pinks and border carnations. Cuttings of pinks root very easily, or you can increase your stock by taking "pipings." These are the tips of growths about 2 in. long, pulled out and rooted in the same way as cuttings. It is always best to renew your stock of pinks, however small, every two or three years.

This may sound idealistic but I find that pinks usually become "leggy" and shy-flowering after a couple of years, especially when used for edgings. It is a simple matter to take cuttings on the spot and replant, either in the same place or elsewhere.

Border carnations are best renewed after three or four years at the most. Layering produces better plants than propagation by cuttings, which may cause a deterioration in both vigour and quality of flower. Shoots suitable for layering are those at the base of the plant. Two or three may be taken from each plant. If you take more you will be restricting the number of flowering shoots for the following year, as each potential layer carries a portion of next year's flowers. On the other hand, you can layer the maximum number of shoots, at the same time discarding the old plant, which will, of course, be seriously weakened.

The actual operation of layering should present no difficulties, although some gardeners imagine it to be a job that only experts can tackle satisfactorily. Remove all

the lower leaves from each growth so that four to six pairs of leaves remain. Scoop out a hole about 2 in. deep round the selected growths and work in some light, sandy soil or compost. The hole should be firmed so that it forms a small mound just above soil level.

The next step is to cut a tongue in the growth by making an upward slit about half-way through the stem and just through the joint where the leaves were removed. (I find all this somewhat difficult to describe in print, as, like rose-budding, a few minutes' practical demonstration is probably better than the most perfectly written instructions.)

Bend the growth so that the tongue is pressed down about half an inch below soil level, holding it down by means of a layering pin, which can be bought quite cheaply by the dozen or hundred from your seedsman. Alternatively, you can make your own layering pins from pieces of galvanised wire bent double to resemble a double-bend road sign. It is always best to bend each layer *between* joints, as the stem is then less liable to snap.

Spray with water and keep moist for a month to six weeks, when the layers should be properly rooted. Sever each layer from the parent plant a few days before it is finally lifted, as this minimises the check from transplanting.

During very dry weather buds on pinks like Mrs. Sinkins, Inchmery and White Ladies often rot and fail to open. This

trouble is usually purely physiological, although some gardeners imagine a fungus disease or insect pest is responsible. The remedy is to water freely and to follow this with a mulch of hop manure, bark fibre or compost.

Regular supplies of moisture are essential if a lawn is to be kept in first-class condition. Never wait until the grass shows ugly brown patches. To determine whether watering is really necessary, plunge a knife blade into the lawn. If the soil is dry to a depth of one inch, give a real soaking so that the water reaches the roots of the grasses. Not less than three gallons of water per square yard is advisable, and during prolonged drought you may have to water twice a week.

Pricking before watering is a tremendous help, especially on heavy, lumpy ground. It breaks up the soil, enabling the moisture to penetrate more easily. An ordinary garden fork does the job quite adequately.

Although you can apply 'Verdone' to your lawn at any time from spring to autumn, more than one treatment is usually necessary for weeds like sorrel, daisies and dandelions. It is therefore best to give the first application not later than July. Incidentally, weeds in herbaceous borders, including bindweed, can be killed if 'Verdone' is applied carefully with a paint brush. Bindweed is extraordinarily persistent, and you will probably need to give several applications.

Grand Canyon

By Andrew Gilchrist (Alkali Division)

Across the State of Arizona in the U.S.A. the River Colorado has carved out a fantastic gorge 200 miles long and in places over one mile deep and ten miles across. This is the famous Grand Canyon, to the bottom of which leads a trail negotiable only by mule.

I HAVE always been of the opinion that the Grand Canyon of the Colorado River is one of the wonders of the world worth trying to see for oneself. My wife and I were in the middle of a fortnight's trip from the east to the west coast of America and back when we went there in June 1954. We spent two days at the canyon, of which the first was spent very lazily, recovering from our journey, and exploring the rim of the canyon. On the second day, we made the trip to the bottom of the canyon and back, on mule-back.

We stayed in Grand Canyon Village, on the south rim of the canyon, at the hotel El Tovar. The rest of the village consists of a railway station, a motel, some art studios, a Hopi Indian house, and a few miscellaneous habitations for the indigenous population, all plying the tourist trade. Bright Angel Trail, which traverses the canyon, starts in the village and, crossing the river by a 400 ft. suspension bridge, finally reaches the north rim ten miles away as the crow flies.

On our first day we learned a lot about the canyon and of its formation. In the days before its existence the Colorado River flowed through the region in an ordinary canyon, as did, and do, all rivers in that region, for reasons known to all schoolboys. Subsequent earth movements forced the ground to rise under the river over a length of 200 miles or so. The river, keeping its course, cut into the ground as it rose beneath it and produced this extraordinary canyon, already a mile deep at the time of our visit.

The upper half of the canyon is cut through horizontal sandstone and sedimentary rock, and is very wide in places. But the lower gorge is cut through

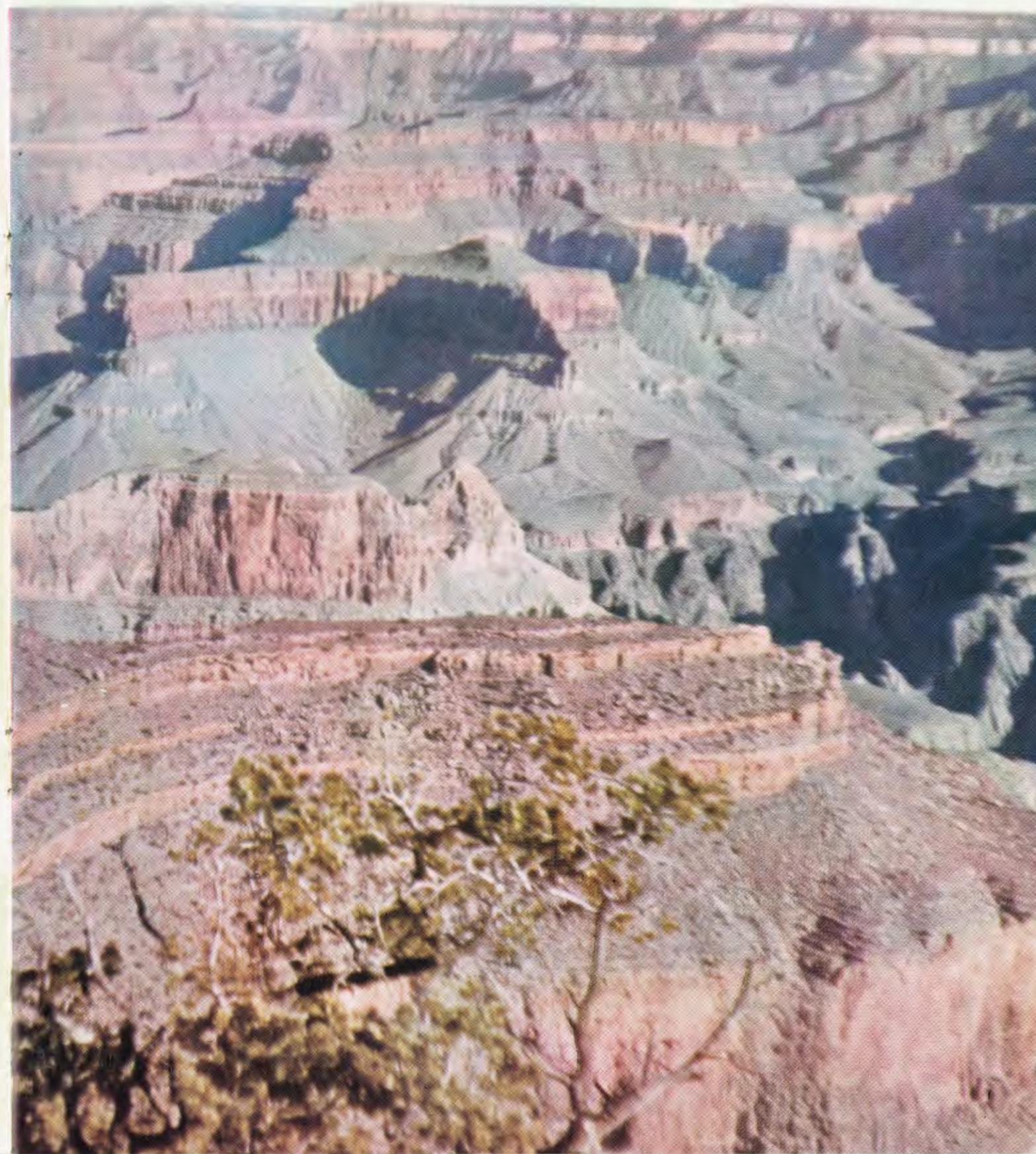
ancient twisted igneous rocks, and is narrow and black-walled. The rocks at the bottom of the canyon are some of the oldest exposed rocks in the world.

Our trip down the canyon began about 9 o'clock in the morning, when we assembled with the seven other people of our party by the mule corral. We were all wearing hired blue jeans, wide hats and long-sleeved shirts to ward off the sun. Around the corral there was a large crowd of people waiting to watch us come to grips with our mules. Soon our guide came along with two helpers. We and the mules were paired off, size for size—the most nervous with the most placid.

My mule was called Jumper, and my wife's was called Rose. Before we set off we were warned about the precipitous nature of the trail, and reassured by being told of the mules' familiarity with the journey and their disinclination to commit suicide. We were to allow the mules to guide themselves at all times, save that we must make sure that they kept close behind each other, nose to tail.

So we started off, as nonchalant as we dared, past the amused crowd, who waved us on our way. Immediately after starting we were drawn up in line along the path and a group photograph was taken. "Prints will be ready when you return, price fifty cents," we were told.

As we finally rode off down the trail it was beginning to get hot—a foretaste of things to come? The sky was blue and cloudless, and down in the canyon it looked dry and blistering. We stopped for a minute while Joe, our guide, checked the girths of our mules. As we continued down the narrow zigzag path the



mules had to perform little side-steps at the turns, with their heads over one precipice and their tails over another. It was difficult to resist the temptation to lean out and help the mule keep his balance.

The rim of the canyon was beginning to look a long way above us, and our seats were beginning to feel sore. An aeroplane passed over the canyon, and its shadow swept across a mountain top within the canyon, about on our level. We were surprised how small was the shadow.

After a time we reached the bottom of the upper cliffs, and the trail led more gently down the floor of the upper canyon, through scrub and an occasional stunted tree. Two hours after starting we passed into the shade of the cottonwood trees of Indian Gardens, where we and the mules were watered and rested for a few minutes. Then on again, into the sun, down through a narrow defile by the bed of a stream, under a cliff, and so down into the inner canyon. Now the rocks were black and twisted, so different from the yellow, regular bands of the sandstone cliffs we had left.

The path led steeply down, twisting back and forth across the face of the canyon wall until it reached the bed of the stream again, along which it continued towards the river. It was becoming very hot. The rim of the canyon was a mile above us now, almost too far, it seemed, for us to return by nightfall. At last we rounded the last bend in this little valley and saw ahead the small shelter, the hitching post, and the great brown river racing along down shallow rapids, bearing inside itself all the measured tons of silt from its own bed.

We dismounted, and were told we would spend about forty minutes here before returning. We trooped down to see the river at close quarters—though not to paddle, for the current, even inshore, is very strong. It seemed not quite so hot by the river, and we wondered if a cool breeze was being carried along on its surface.

Back to the shelter we scrambled, over the rocks and across the sand, to eat the packed lunches brought down with us from the hotel. Few of us had much appetite for sandwiches, but oranges were welcome. The temperature was about 105° F.

Then the journey back began. It was explained to us that on the way up we should stop every few minutes for a minute, to rest the mules. When we stopped we were to make sure that the mules were facing outwards, over the edge of the path. Should



THE RIVER COLORADO at the heart of the Grand Canyon, a scar one mile deep in the crust of the earth's surface. This photograph was taken at a temperature of 105° F.

they rear, we would only fall back on to the path! As we went back along the stream bed and up the trail, twisting to and fro up the canyon wall, the heat was stifling. The sun was still very high above the rim of the canyon, and shadows fell straight down the walls.

At last we reached the defile which led to the upper canyon and sheltered for a minute in the shadow of the cliff. From there it was not far to Indian Gardens and a long, cool drink of water and a few minutes' rest under the cottonwood trees. Then on again into the

open, with the upper canyon wall directly ahead and the track visible right to the top. As we jogged along towards the wall the advancing shadow of the cliffs rode to meet us, and at length we passed into its blessed relief. For the last hour or so we climbed steadily up, cool and relaxed, seeing below us the trail winding down into the sun and disappearing into the lower canyon. Not for the world would we have missed that day.

We did not realise quite how stiff and sore we were

until we reached the corral again, nine hours after leaving it, and tumbled off our gallant beasts. Oh, the agony it was to walk! Would we ever be able to straighten up again?

The last two hours of our visit leave only a blurred memory of collecting the photograph of the party taken as we set out, having a bath, returning our hired clothes, a quick dinner, missing the sunset, and catching the train back to the main Santa Fe line and on our way to Los Angeles.

NEWS IN PICTURES



20,000 people lined the royal route when the Queen and the Duke of Edinburgh toured the Wilton site last month. The royal visitors inspected an exhibition of products and part of 'Terylene' Staple Fibre Plant. Above: The Queen signs the visitors' book. With Her Majesty are Sir Alexander Fleck and Dr. A. Caress (Fibres Division chairman). (Photo: Middlesbrough Evening Gazette.) Below, left: The royal visitors with Mr. W. D. Scott (Billingham Division chairman)



New delivery service for dried vacuum salt in bulk. Above: An operator on a factory site connects an intake pipe through which the salt will be discharged from the vehicle by compressed air



Central Council. Sir Alexander Fleck, watched by the Division chairman, Mr. J. K. Batty (on the right), presents a bronze plaque to the winners of the I.C.I. First Aid Competition, Alkali Avenue Works. A new award introduced this year, the plaque is to be kept permanently by the winning works. Below: Dr. Avery (Dyestuffs Division chairman) receives the I.C.I. Safety Trophy from the Chairman. Dyestuffs are the first Division to win trophy three times



New industrial uses of 'Terylene' include dye-bags and laundry bags. Above: 'Terylene' dye-bags containing nylon stockings are being unloaded from a hydroextractor. 'Terylene' bags last roughly twice as long as cotton bags



Ardeer Factory was "at home" on Saturday, 18th May. On view were Safety Fuse, Blasting, and Detonator Depts.,



TV cameras filmed Billingham and Wilton at work for the Middlesbrough Productivity Exhibition. Mr. Derek Holbrook (Billingham Works Relations Section) televising Mr. Gordon Begg (I.C.I. Films Officer), who introduced the programmes



Foundation stone for the new Cleveland Technical College, Redcar, was laid by Sir Alexander Fleck assisted by John Andrews, 19-year-old engineering apprentice at Wilton. Estimated cost of College is over £400,000; it will have accommodation for 200 full time, 1000 part time and 1000 evening students. (Photo by courtesy of the "Middlesbrough Evening Gazette")



I.C.I. stand at the Japan International Trade Fair held at Osaka excited comment both in the Japanese press and over the national radio. Above, left: Staff of I.C.I. (Japan) in front

of the stand. Right: The British Ambassador to Japan, Sir Esler Dening, inspected I.C.I. stand on the opening day. Mr. G. H. Dickson (president of I.C.I. Japan) is on the far right



A model pig with a piping voice like a Disney character made its debut on the Plastics Division stand at the Great Cheshire Show last month. Aim is to publicise corrugated 'Perspex' for the roofs of piggeries and 'Alkathene' tube for water supplies



Modernisation at Nobel Division's Tuckingsmill Factory includes a new jute mill and spinning building, and welfare buildings. Above: Work in progress on the welfare buildings



Territorial Efficiency Decoration has been awarded to Capt. A. V. Stott (Huddersfield Works Drawing Office), who commands the R.E.M.E. Light Aid Detachment with 382 Regt. Royal Artillery



Apprentice painter at Ardeer Factory, Mr. David Smith, won first prize in Scottish Painters' Society's national competition



Trombonist in the Lancashire County Youth Orchestra which recently toured Norway for ten days was Mr. K. P. Martin (in foreground), an engineering apprentice at Alkali Division's Fleetwood Works

I.C.I. NEWS

BIRTHDAY HONOURS LIST, 1956

FOUR members of the staff received awards in the Queen's Birthday Honours. Mr. R. M. Currie (head of Work Study Dept.) received the C.B.E., Dr. A. H. Lewis (director of Jealott's Hill Research Station) the O.B.E., and Mr. C. H. Shaw (chief cashier at Wilton Works) and Mr. R. E. Tugman (Alkali Division Safety Officer) the M.B.E.

Mr. Currie has been responsible for the development of the modern concept of work study in the Company. By profession Mr. Currie is an engineer and a full member of the Institutions of Civil, Mechanical and

Production Engineers. He was educated at Kelvinside Academy, Glasgow, and Fettes College, Edinburgh, and served a 5-year marine engineering apprenticeship in a Clyde shipyard. He is a much-travelled man, and before the war he was engineer-in-chief of one of the largest waterworks in the world in Shanghai. He was interned by the Japanese in the early part of the last war but was returned to this country under the prisoner exchange scheme. On repatriation he joined a leading British firm of industrial consultants at the request of the Admiralty.

Mr. Currie joined I.C.I. in 1947 and under the direction of Sir Ewart Smith founded a small section of the I.C.I. Technical Department at Head Office from which has developed the Central Work Study Department. Also in that year he began the first work study courses. By 1949 all Divisions had work study officers in their headquarters and most of their factories, and now work study staff at Head Office and in the Divisions number over 1300.

Through such means as the now famous "open days," which he introduced three years ago, I.C.I. and work study have become synonymous terms in the minds of industrial management both in this country and abroad. He is at present actively engaged in assisting the nationalised industries—in particular the British Transport Commission—



Mr. R. M. Currie



Dr. A. H. Lewis

and all three branches of the Services on the introduction of work study techniques. He is also closely involved in the work of the British Productivity Council.

Mr. Currie is the second member of his family to be awarded the C.B.E. His sister previously gained this award for her outstanding work with the W.R.N.S. as Superintendent W.R.N.S. Western Approaches during the last war.

Dr. Lewis has been director in charge of all research by Central Agricultural Control since November 1954. Born in Somerset, Dr. Lewis was educated at Sexey's School, Bruton, and University College, Reading, where he obtained an honours degree in chemistry. After leaving university, Dr. Lewis spent a year at Rothamsted Experimental Station. He then proceeded to the Imperial College of Tropical Agriculture in Trinidad and was awarded the Associateship of the College in 1928. After a short period at the National Institute for Research in Dairying, Shinfield, he joined the staff of Jealott's Hill Research Station in October 1928 as soil chemist. He was appointed Fellow of the Royal Institute of Chemistry in 1935 and has been awarded the degrees of Ph.D. and D.Sc. of the University of London.

In 1945 he succeeded Dr. S. J. Watson, now Professor of Agriculture in the University of Edinburgh, as Director of Jealott's Hill. Eighteen months ago, in November 1954, he was appointed director in charge of all research by Central Agricultural Control, including crop protection as well as fertilizers, grassland management and crop production. On 10th April this year Dr. Lewis had the honour of accompanying the Duke of Edinburgh on a tour of the Research Station.

Mr. Tugman is the doyen of I.C.I.'s Safety Officers. Born at Richmond in Surrey, he entered the Royal Navy in 1913 and served throughout the first world war, retiring

from the service in 1920. He then spent some years in East Africa before joining I.C.I. in 1934 as the Alkali Division's first Safety Officer.

Mr. Tugman has served on a number of committees on safety, and has taken an active part in the development of protective clothing and equipment for industry. He was one of the first safety officers to be made a Fellow of the Institution of Industrial Safety Officers, and is at present serving on the Institution council.

He was one of the Company's representatives at the first World Congress on Industrial Accident Prevention held in Rome in April last year, and in October he visited the United States for

the annual National Safety Congress at Chicago. More recently he was chairman of the National Industrial Safety Congress held at Scarborough in May.

Mr. Shaw has been head of the Cashier's Section at Wilton Works since 1951, having joined the Company in June 1940. His early career, after service in the R.N.V.R during the first world war and a period at Liverpool University on demobilisation, was spent with a firm of East India merchants and with Rootes Securities Ltd., aircraft manufacturers.

His first I.C.I. appointment was as cashier at the Ministry of Supply agency factory at Randle. Then in June 1945 he was transferred to Wade Works, and finally in the December to Wilton.

Mr. Shaw is married and has two children, a son and a daughter, both married.

SECOND INTERNATIONAL CONFERENCE AT FERNHURST

Over 200 delegates, many of them from Commonwealth and foreign countries, attended the second International Conference on Crop Protection organised last month at Fernhurst Research Station by Plant Protection Ltd. The countries with the strongest numerical representation were France (9 delegates), Holland (8), U.S.A. (7) and Nigeria (6). Other countries sending delegates included China, Japan, Costa Rica, Argentina and Brazil.

The conference lasted three days, and the programme included papers by Dr. J. G. Knoll (Chief of the Plant

Production Branch of the F.A.O.), Dr. W. F. Hanna (Department of Agriculture, Ottawa) and Dr. S. E. A. McCallan (Boyce Thompson Institute, New York). Other speakers included Prof. K. T. Suhorukov (U.S.S.R.), Dr. E. W. B. van den Muijzenberg (Holland), Sir Frank Engledow (Cambridge University) and Sir Solly Zuckerman (Birmingham University). Subjects under discussion were the appreciation of crop protection chemicals and the residual effects of such chemicals, the role of systemics in crop protection, and genetics in relation to crop protection. Crop protection machinery was demonstrated on the last afternoon. Throughout the proceedings a novel feature was the use of closed circuit television for the showing of slides used by speakers.

Delegates also visited Jealott's Hill Experimental Research Station and saw something of the preliminary research work from which the field scale experiments undertaken at Fernhurst develop.

MR. J. H. A. LANG

Reference to the Company's dismissal of Mr. J. H. A. Lang, formerly Assistant I.C.I. Solicitor, was made by Sir Alexander Fleck, Chairman of I.C.I., at the Annual General Meeting on 14th June.

"The Company," said Sir Alexander, "was informed by the Government that the Government regarded as an essential condition to the placing of further secret contracts with I.C.I., that I.C.I. should be able to undertake that Mr. Lang would not have access to secret information disclosed in connection with such contracts. The Board decided that it could not decline to undertake future secret work for the Government.

"When the Government's attitude with reference to Mr. Lang being concerned with Government contracts was made known to us, we as a company, and in keeping with our policy of good employee relationships, naturally considered very carefully whether it would be feasible to transfer Mr. Lang to some other part of the I.C.I. organisation where no question of security would be involved. Although the competence of Mr. Lang was never in issue, no transfer within the Company which would have been satisfactory to Mr. Lang and to the Company was possible.

"The Company deferred any action while Mr. Lang made his own representations to the Government, but the Government did not change their attitude.

"In these circumstances I.C.I. had no alternative open to it but to terminate Mr. Lang's contract of service, and in view of the terms of his contract, he was advised that the Company's decision to terminate his employment would entitle him to appropriate compensation.

"Mr. Lang has acknowledged our letter in terms which I am happy to describe as friendly."

I.C.I. TELEVISION AT MIDDLESBROUGH EXHIBITION

Live television transmissions from Billingham Factory and Wilton Works and a film of the Queen's visit to Wilton

were viewed on the I.C.I. stand by visitors to the "Better Ways—Better Days" productivity exhibition held at Middlesbrough from 28th May to 7th June.

About ninety television programmes, thought to be the first-ever industrial TV broadcasts using a radio link for vision, were transmitted from Billingham and Wilton. A special G.P.O. landline was used for sound. The Billingham transmissions came from the Sulphate Evaporation Plant and the T2 Compression Plant in Ammonia Works. The TV sequence comprised pictures from the plant and on-the-spot descriptive commentaries. About thirty employees were interviewed on the job and were seen on the TV screens at Middlesbrough.

The transmitting was done through a mobile broadcasting unit, and four cameras were used on the works. All the TV equipment was supplied by the Pye Industrial TV organisation. The cameras were operated by members of the I.C.I. Film Unit assisted by Billingham staff.

Among the Wilton contributions was the televising of a film of the Queen's visit to Tees-side and Wilton made by the I.C.I. Film Unit. It was shown on screens on the I.C.I. stand at Middlesbrough Town Hall within three hours of the Queen having left Wilton.

In that time the film had been processed and edited in the Wilton Photographic Department and had been taken to Billingham to be run through the TV cameras. It was being shown at least half an hour before the B.B.C.'s film went out over TV. In an hour and a half about 1200 people saw the eight showings of the film at the I.C.I. stand. (Pictures on page 212.)

ALKALI DIVISION

Fifty Years' Service

No fewer than 44 I.C.I. employees are still working for the Company after more than 50 years' service. Alkali Division heads the list with 13 men who have completed 50 years or more. Salt Division comes next with 8, closely followed by Metals and General Chemicals Divisions (7); Lime, Billingham and Nobel Divisions each have two 50-year employees, and Dyestuffs and Paints Divisions and Head Office have one.

Alkali Division also holds the record for employing the longest-serving worker in the Company, 72-year-old Mr. Jack Webb. Jack Webb started work with Brunner Mond's at Winnington in 1898 as a rivet boy, later becoming a holder-up, and ultimately a boilermaker with the local M.O.S. factory at Gadbrook, where T.N.T. was made. Shortly after the end of the war he returned to Winnington, and in 1923 he was one of the first boilermakers employed on the new building site which quickly grew up into Wallerscote Works, where he has been continuously employed ever since. He was promoted to Staff Grade in June 1928 on the first occasion that promotions were made.

Ever since his schooldays he has played a prominent part in local football, first as a player then as a referee, and since 1928 he has been the trainer of the I.C.I. (Alkali) Football Club. In spite of his 72 years he is always at



Mr. Jack Webb

hand ready to sprint on to the field to render assistance to any of his injured players.

Chairman of Northwich Town Council

Councillor Miss Margaret Hassall, who is employed in the Alkali Division Medical Services Department at Winnington, has been elected chairman of Northwich Urban District Council.

Miss Hassall, independent Conservative member for Castle Ward, was first elected to the Council in 1951. She has been chairman of the Council's Public Libraries Committee for three years, and is chairman of the local branch of the British Empire Cancer Campaign. She represents the Urban Council on the Area Children's Sub-committee of the County Children's Committee and is a member of the governing bodies of three local schools.

After being elected chairman at the annual meeting of the Northwich Council on 22nd May, Miss Hassall said: "Like most new Council chairmen, I have an ambition for my year of office. I have thought of something that will cost no money and something everyone will be able to take part in. I should like to make this town litter free." Miss Hassall called for everyone's co-operation in achieving this.

DYESTUFFS DIVISION

Huddersfield Secretary wins Mayor's Trophy

The first holder of the new silver trophy "for service to the Council, Club and Community" awarded by the Mayor of Huddersfield is Miss Jean Pettinger (Work Study Dept., Huddersfield Works). The trophy was presented to her by the Mayor, Alderman J. T. Gee, at Huddersfield Education Offices on 1st May.



Miss Margaret Hassall

The Huddersfield Council of Youth consists of forty members, of whom five were nominated as eligible for the award. Jean, who is secretary to the Council of Youth,



(Photo: Huddersfield Examiner)
Miss Pettinger receives the trophy from the Mayor

topped the nomination ballot, arranged by her fellow members, for this honour.

Miss Pettinger is 21 and has been with the Division since she left school. In addition to her duties as secretary of the Youth Council she represents Longwood Ladies' Athletic Club. Her athletic leanings are, we understand, mainly towards javelin throwing.

Manchester Drama Festival Success

The Hexagon Players—the dramatic section of the I.C.I. (Blackley) Recreation Club—won second place in the Manchester and District Drama Federation Festival. This achievement earned them the award of the Lowry Trophy.

This is no mean feat for a society which until 1954 had confined its activities to Blackley. Now, at only the second attempt in open competition with the many amateur groups in Manchester, the Hexagon Players have demonstrated to a large public that their standard of production ranks among the highest in the local amateur field. The section's choice of play was *The Gift*, by Mary Lumsden.



The cast and producer who won the Lowry Trophy

FIBRES DIVISION

"Feathering their Nests"

It seems that birds have an eye for quality, for recently there have been two examples of their selecting 'Terylene' for their nests.

Mr. Ted Jones, who manages the 'Terylene' staple fibre plant at Wilton and who lives in the Middlesbrough area, took home some examples of the raw 'Terylene' material to show his family. In time some stray pieces of 'Terylene' staple fibre found their way into his back garden, and he was soon amazed to discover that some of the sparrows had collected them together and had carefully made a nest from them.

The second tale is told by a pillow manufacturer in the North of England who has recently begun to fill his pillows with 'Terylene.' He is in the habit of keeping the raw materials for the filling in the loft of his works where birds sometimes nest. He has known for a long time that the birds have an uncanny instinct for sorting out the best qualities of down and feathers from the loft. Since beginning to use 'Terylene,' however, the birds have selected this in preference to all the other stores in the loft. In fact, he has noticed that when his 'Terylene' is in short supply the birds fight for the few pieces that are available.

METALS DIVISION

Into Action

On 12th May, members of the Kynoch St. John Ambulance Division were on their way to attend the Sovereign's review of the Brigade in Hyde Park when they pulled up to attend the victim of a car smash. They gave a superb exhibition of rapid thinking, speedy action, team work and skill in dealing with the patient, who had sustained multiple serious injuries to the head and upper torso and whose condition was extremely grave. Each man did his job, and no one got in anyone else's way. The three doctors and the police superintendent who arrived were enthusiastic in their congratulations—in fact, the police made notes of the name and particulars of the Division with a view to commendation.

"Arfamo?"

"Arfamo" was Mr. Ronald Wem's invariable reply when called away from his work on a plan which has been his dream for years. Most people lose their youthful enthusiasm for boats when they find that a cabin cruiser is beyond their purchasing power—but not Mr. Wem, a draughtsman in the Amal Drawing Office. After spending five holidays on the Norfolk Broads in hired cruisers he decided to build a boat of his own, and in the summer of 1953 work began.

An ex-army pontoon 20 ft. long by 6 ft. wide was purchased for the hull, and was transported to the back garden of his parents' home in Kingstanding. Next Mr. Wem built a saloon and cockpit to his own design from



Mr. Wem (on the boat) helps to launch his cruiser

timber and hardboard; inside he fitted bunks to sleep two, lockers, a Calor gas stove, and a sink unit. The problem of propelling the vessel was overcome by using a second-hand 8 h.p. Jowett engine and a special propeller unit working on the principle of a water turbine which cannot be fouled by weeds.

While all this was going on Mr. Wem found time to get himself engaged and married. He spent his honeymoon aboard and lived there while his house was being built.

On the morning of 12th May a mobile crane lifted the cruiser out of the garden on to a lorry and transported it to the canal, where, watched by an enthusiastic crowd of friends and fellow workers, Mrs. Wem performed the launching ceremony and christened the boat *Arfamo*.

NOBEL DIVISION

Export Sales Manager appointed to Board

Mr. Raymond J. Bown has been appointed Export Sales Director of Nobel Division in succession to Mr. J. W. Donaldson, who retired at the end of December 1955.

Mr. Bown was educated at Clifton College and at Birmingham University, where he took a mining degree in 1927. He first came to Nobel Division in 1935 as a member of the Technical Service Department, and in succeeding years, until the outbreak of war, he was engaged on technical service work in Britain's mines and quarries.

When the second world war started he worked for a period as superintendent in the Garnock Section at Ardeer until June 1940, when he was seconded to the services.

He was attached to the R.E. Commands and supervised much training in demolition. Thereafter he was liaison officer with the School of Military Engineering until the end of hostilities. For this war work he was appointed an M.B.E.

When he returned to Nobel Division Mr. Bown resumed in Technical Service Department for a short period, but in September 1945 he joined Export Sales Department as an assistant to Mr. J. W. Donaldson. Thereafter he travelled extensively on the Company's business, and in July 1952 he was made manager of Export Sales department. In January of this year Mr. Bown became a member of the Board of I.C.I. (Export) Ltd. His home is in West Kilbride.

SALT DIVISION

Nigerian Minister's Visit to Winsford

On 25th May the Minister of Trade of the Northern Region of Nigeria, Alhaji Aliyu Turakin Zaria, accompanied by his permanent secretary, Mr. R. A. Berriff, paid a visit to the Division's Winsford Works. For more than fifty years Salt Division and its predecessor, the Salt



The Minister with Mr. R. A. Berriff (on the left) and Mr. T. R. Scott (Division Research Director) about to descend the mine



Mr. R. J. Bown

Union Ltd., has been shipping salt to Nigeria, and nearly half of all the English salt imported into Nigeria every year comes from the Salt Division's Works.

The Minister saw the traditional coarse salt for Nigeria—known in the trade as Light Lagos Salt—being made and prepared for shipment. He also saw the modern vacuum technique by which I.C.I.'s new dendritic salt is made.

The highspot of the tour was a visit to the rock salt mine. After watching mechanical cutters and loaders at work the Minister was invited to detonate an explosives charge to blast out salt from the rock face. His effort brought down 100 tons in a fraction of a second.

WILTON WORKS

Over 500 First Aid Awards

A new record was set by first aid classes at Wilton this year—127 people gained awards from the St. John Ambulance Association. This brings the figure to over 500 since classes began at Wilton.

Among the recipients at the presentation ceremony, held in the Piccadilly Restaurant, was Mr. W. S. Chapman



Mr. Chapman receives a silver cigarette box from Dr. Jenkin Evans

of 'Terylene' Works, who got the 500th award. To mark the occasion he was presented with a silver cigarette box by the Senior Medical Officer, Dr. S. Jenkin Evans.

The Division Chairman, Mr. C. M. Wright, presented the Association's awards—61 labels for four or more year's work, 20 medallions for three years, 8 vouchers for the second and 38 certificates for the first year's work.

The Director General of the St. John Ambulance Association, Mr. H. Parshall, who was present when the awards were handed over, remarked that Wilton had the biggest class of first-aiders in the North if not in the whole country.

I.C.I. (JAPAN) LTD.

Mr. M. Shimizu

It is with regret that we have to announce the death in Yokohama on 17th May of Mr. M. Shimizu, Japanese Director of I.C.I. (Japan) until his retirement last year.

Mr. Shimizu had completed over 50 years' service with the Company and its predecessors in Japan, having started with the American Trading Company, who were before 1918 the agents of Brunner, Mond & Co. There is no record of the actual date on which he entered the service of the American Trading Co., but it is known to have been not later than 1904. He joined the staff of Brunner, Mond & Co. when they opened their first office in Japan, and was the only member of the staff of their Yokohama office to survive the disastrous earthquake in 1923. He was appointed a director of Brunner, Mond & Co. (Japan) Ltd. in 1941, and did much to safeguard the Company's property and interests during the war when they were taken over by the Japanese Custodian of Enemy Property. After the war his help and advice were invaluable in restarting the local company. He came to the United Kingdom in 1951, visiting Head Office and several Divisions.

OUR NEXT ISSUE

The August *Magazine* opens with an article by Dr. D. G. Davey of Pharmaceuticals Division, who is the man more than any other responsible for the discovery and development of the drug 'Antrycide,' which helps to protect cattle in Africa against trypanosomiasis or sleeping sickness. Dr. Davey has recently been in Africa to see for himself the progress which this drug is making and to check up on its effectiveness. He writes a most interesting account summing up the special value of 'Antrycide' in comparison with other methods of attack on the tsetse fly, the carrier of trypanosomiasis.



Our colour feature is about a little railway in Wales called the Talyllyn Railway, claimed to be the oldest steam working passenger-carrying narrow-gauge railway in the world in continuous operation. The railway celebrates its 90th birthday this year and owes its present existence entirely to a small band of enthusiasts called the Talyllyn Preservation Society, who pay a subscription of £1 per year and give up holidays and week-ends to work on the railway. It is a splendid story of co-operative private enterprise.

Lastly, an amusing piece from Mr. Gordon Long of Central Publicity Department. It is called "Mad Dogs and Englishmen."

CORRECTION

We regret that on page 184 of our last issue the statement appeared that Mr. R. A. Lynex had received his 20 years' service award. Mr. Lynex has, of course, completed 30 years' service.

Ever Been Stalking?

By Edward Broke Evans (Dyestuffs Division)

THE ship was at anchor in Loch Ewe. It was a crisp, partly overcast Sunday morning in late October 1952, and I was standing on the flight deck looking across a calm expanse of water towards Aultbea.

There was little sign of life ashore or, for that matter, aboard, since Jack is not, even at the best of times, a fresh-air fiend. My solitude was disturbed by the clatter of boots on an iron ladder, and a moment later the Communications Officer appeared at the opposite side of the deck. He seemed to be looking for someone and was evidently in a hurry. Methodically scanning the two acres of flight deck, he hurried towards me on spotting my solitary figure. Soon he was at my side, grinning jovially.

"Ever been stalking?" he said.

"Well," I said with hesitation, "in a sort of way. What about you?"

"Only the two-legged variety, old boy. What d'you mean by 'a sort of a way'?"

"As a small boy I followed the guns on the veldt on one or two occasions."

His face lit up. "Then you're an expert! Would you care to join the party today?"

"Who else is going?"

"Guns is going and er——" he hesitated. "Well, you know how it is."

I knew exactly how it was, but I still had two trump cards up my sleeve. "I've got to meet the Captain in half an hour," I said.

"Oh, I'll fix him!"

"Besides, I haven't any kit."

"Leave it to me, old boy!"

I knew then that there was no escape.

"What about the ethics?" I said.

"Ethics, old boy? What ethics?"

I tried to illustrate my point by quoting the story of the Boer farmer who, on his first visit to England, was invited to a shoot. As he and his host were approaching the edge of a wood they had been driving,

a pheasant ran ahead of them into the open. The Boer at once raised his gun to his shoulder and took careful aim. "You're not going to shoot yet, are you?" his host asked him, horrified. "Are you mad?" replied the Boer. "I'm going to wait till it stops!"

The Communications Officer viewed me gravely for some time. I had obviously presented him with an embarrassing question. Then, dropping his voice slightly, he addressed me in a tone of great confidence. "Look, old boy, you won't see a thing anyway, and if you do"—he indicated by his rueful expression that such an eventuality was wildly improbable—"then the ghillie will see you right."

Twenty minutes later I emerged from a bewildering tour of cabins in a rig which I can only describe as one of modified ratcatcher.

I met the Gunnery Officer on the quarterdeck. A few minutes later the Chief Gunner's Mate appeared with two rifles and a quantity of ammunition. He handed me one of the rifles. "Here you are, sir." he said, winking at another petty officer, "straight from the works. Never even been zeroed." I was too pre-occupied in stuffing my pockets with bullets to pay much attention to his final remark, and Guns treated it with the characteristic condescension displayed by all gunnery officers when dealing with anything smaller than a six-inch turret.

A power boat took us ashore, and we landed at Aultbea's single dilapidated pier.

Taking in the austere highland landscape, I wondered who our host would be. The Master of Aultbea? The Laird of Loch Ewe? Ewen McAultbea, perhaps? It turned out to be the son of a local tradesman. He rolled up in a grey Vanguard station wagon half an hour after we had landed.

We got into the car, which was driven by a man with a huge square face surmounted by a cloth cap pulled down over one eye. He looked like a prize-fighter. The ghillie himself was a small man of about 45. Descendant of Gaelic Pict, Viking Norseman and

a touch of Fleming, he was a typical highlander. His subdued dress was in marked contrast with my own raffish attire. I attempted to strike up a conversation with him.

"What do you grow up here?" I asked.

"Potatoes," he replied.

After about half a minute it became obvious that the conversational initiative rested with me. "Anything else?" I asked.

"Swedes," he said, "ahnd turnips."

"Soil bad?" I asked.

A look of disgust crossed his face. "Puer," he said. "Very puer."

"Livestock?" I asked.

"Blahk-fehst sheep," he said solemnly.

Conversation then ceased, sound being limited to the heavy breathing of the driver, who was sweating profusely and seemed to be doing an unnecessary amount of gear-changing.

"Probably suffers from D.T.s," whispered Guns. "Thinks he's in heavy traffic!"

Shortly after passing through the tiny village of Laid, we descended a steep hill some two miles in length leading to the shore of Gruinard Bay. At the foot of the hill we pulled up and got out. The man in the cloth cap drove off in the direction of Aultbea, while we ascended a hill which rose steeply from the side of the road.

As we had made a late start we decided to have lunch first. We stopped at the top of the hill and had our sandwiches overlooking Gruinard Bay, the only other sign of life being a thin wisp of smoke rising from a solitary crofter's cottage near the beach. The ghillie, dour and unconvivial, did not join us for lunch, seating himself instead on a rock just out of earshot.

At half-past one we set off along a trail following the course of a river. We climbed gradually through boulder-strewn hillside interspersed with occasional birch trees. The vast expanses of purple heather were relieved here and there with traces of ragwort, "stunkin' Wullie" as the ghillie called it.

After following the river, which ran south, for about two miles we struck off due east. We walked for another three miles, the ghillie ahead, apparently tireless, setting a swift pace.

Suddenly he flung himself to the ground, Guns and I imitating him at a more leisurely rate. For two minutes he scanned the hills ahead through a pair of ancient binoculars. Guns looked next, and after much

pushing and prodding from the ghillie at last spotted something.

"Deer!" he said, as if he had seen a miracle.

"Stahgs," said the ghillie.

"How do you know they're stags?" asked Guns.

"Stahgs," said the ghillie with great solemnity, "haas horrnz!"

I could only just see them through the binoculars, and it seemed an awfully long walk to me, even assuming they stayed still for an hour or so.

We continued, soon leaving the undulating hillside for more open country. After about a mile we came to a stream which in one place was just narrow enough to jump. The ghillie did it effortlessly and Guns just made it. Misjudging my prowess by a matter of inches, I slipped on a wet stone and went flat on my back in the stream. For a moment I did not know whether my back had been broken by the fall, whether my fall had been broken by the rifle or whether my rifle had been broken by the fall; or, for that matter, whether all these things had happened.

It is curious how on such occasions a fleeting memory can cross one's mind. On this occasion I remembered as I lay momentarily in the ice-cold water the words of the Instructor Commander when he had outlined the geology of the area the previous afternoon while we were anchoring in Loch Ewe. "Most of the area west of the line of disturbance is covered by Torridonian sandstone," he had said, "mainly dark reddish sandstone, grits and shales, resting uncomfortably on the ancient Lewisian gneiss." Being no geologist, I was able merely to confirm the uncomfortable part. When I examined my rifle, however, I found the sights solidly jammed with the grit and shale of which the commander had spoken.

I emerged, dripping in every sense of the word, to find Guns also a casualty. He had been rendered prostrate with mirth, and it took him several minutes to recover. Finally, fortified by gulps of Scotch from a flask handed us by the ghillie, we set off once more in the direction of the distant hills.

Two miles brought us within 800 yards of the deer we had spotted earlier; but they were above us on the hillside, and as there was little cover they saw us and made off in a slow deliberate manner, gently but firmly widening the distance between us.

We had gradually been turning in a wide circle and were now facing west. I reflected somewhat bitterly that the summer months on the beaches of the Costa

Brava had not been particularly good training for this kind of caper, and I was glad that we were now heading for home. The chase, however, was by no means over, and we soon found ourselves back in undulating terrain.

Dusk was almost on us when the ghillie's pace suddenly quickened. After a few hundred yards he slowed down and motioned us close to him. We were now approaching a small hummock, and the ghillie, bent almost double, was hopping forward like a witch-doctor smelling out some evil spirit. A few minutes later we were crawling to the summit of the hillock. We wormed our way forward to where the ghillie lay motionless.

Whatever our first introduction to shooting, whether it were grouse on the moors, partridge in the Wirral, duck on the Broads or, more modestly as in my case, taking pot-shots with a four-and-tenpenny airgun at Kaffir cats on galvanised iron rooftops in Simonstown, we are all familiar with "A Father's Advice to his Son," which begins "Never, never let your gun . . ."

It was, however, the penultimate verse of Mark Beaufoy's lines which now concerned me most:

Keep your place and silent be;
Game can hear and game can see:
Don't be greedy, better spared
Is a pheasant than one shared.

Raising my head ever so slowly until it was at the level of the heather, I surveyed the scene before me. About a dozen deer were grazing or standing motionless in a dip below us at a range of about 120 yards.

I was now horrified to find myself faced once more with the problem of ethics. I glanced at Guns. He was clearly in a similar predicament. We both looked at the ghillie. I don't quite know what we expected. Would he blow a whistle, or play a fugue on a modified post horn swiftly produced from that huge game bag he wore, or perhaps spring to his feet and do some fantastic highland fling. He did none of these things. He merely turned his head slowly towards us with a look of surprise on his face. "Ahnd what," he whispered with the characteristic intonation of the highlander, "are yew waitin' furr?"

Guns and I fired together. One shot each. The deer, one and all, looked haughtily in our direction. Suddenly I felt that same surge of shame as on the occasion when, at a stuffy cocktail party at which I knew no one, I had been unfortunate enough to drop my glass on the parquet floor during a lull in the



... a stream just narrow enough to jump

conversation. Guns and I exchanged awkward glances. "Go on, go on!" said the ghillie, now beside himself with impatience.

The peace of the highlands was rent asunder as we emptied our magazines. The deer, now thoroughly roused, quickly made off into the gathering gloom. All, that is, except for one young stag which quietly sat down. He remained motionless for quite half a minute and then, casting his native highland horizon one final blasé glance, he turned, slowly and with immense dignity, on his side and died.

"Whewse was it?" asked the ghillie.

"I don't think it was mine," I said. "I didn't aim at it."

Guns gave a self-satisfied smile, but as soon as the ghillie's head was turned he whispered that he had not aimed at it either. The side had not, at any rate completely, been let down. We explained to the ghillie, most apologetically, that our rifles had not been zeroed. He gave us a searching look, sucked his teeth, and said not a word.

Walking quickly up to the fallen stag the ghillie produced from his voluminous game bag a present from the Navy. We identified it immediately as a knife, pocket, Admiralty pattern, seamen, for the use of. With this the ghillie deftly and skilfully did his carving. He then became surprisingly verbose, reeling off in bewildering jargon a description of the head.



materialised. The ghillie went off to the crofter's cottage to telephone, while Guns and I sat down, utterly exhausted. It was bitterly cold at the edge of the bay.

"You know, we're going to catch pneumonia if we sit here much longer," said Guns.

We started walking up the hill, intending to intercept the car. Suddenly it struck me that we might have difficulty in finding the place where we had left the haunches.

We could not at that moment have cared less about the haunches, but there remained the question of the rifles, which if lost would involve us in a court-martial. We hastened back down the hill and spent the next half-hour searching desperately. We found the rifles and haunches just as the longed-for headlights appeared over the brow of the hill. A moment later the ghillie turned up. The car arrived and we climbed in. The man with the big face and cloth cap was still at the wheel, breathing harder and sweating more profusely than ever. The atmosphere inside the car was redolent of cut and best Scotch.

I dozed off on the way back to Aultbea and I remember vividly the dream I had. Port after haunch had been transformed, horribly, into haunch after port. At the end of a sumptuous mess dinner I sat, on my own, at table. Suddenly four huge haunches of venison on an enormous dish were placed before me by a chief stoker. Then the dream took on another dimension and I found myself surrounded by surgeon commanders, each one identically clad in brass hat and long white tunic. Waving their stethoscopes accusingly and peering at me through maladjusted pince-nez, each and all of them chanted in dreadful unison "Eat it yourself! Eat it yourself! Eat it yourself!"

We entered the wardroom to find the Communications Officer, comfortably attired in mess undress, propping up the bar as usual. "How did you get on, old boy?" he asked amiably. "Pretty rugged, I suppose?"

"Yes," I said, "it was pretty rugged."

"What are you having?"

"A treble whisky, please."

"Better make it a double-treble, old boy."

It was not without difficulty that I found my way to my cabin. Within minutes, however, I was on my bunk, vowing never to go stalking again without a zeroed rifle and a helicopter in close support. Then I sank into blissful oblivion.



Riquewihr—wine village in Alsace

John Taylor, I.C.I. France (Paris)